I-Team Framework
Orthophotography Workgroup

June 7, 2004 Meeting

Location: Indiana Government Center South Building, Training Center, Training Room 11 10am-3:00pm

Attendees:

Jim Stout, IMAGIS	Jill Saligoe-Simmel, IGIC
Dave Coats, IUPUI	Randy Smith, Monroe County
Bruce Nielsen, USDA	William Holder, Kosciusko County
Larry Stout, Hamilton County	Doug Seidman, ITOC
Roger Koelpin, ITOC	Brad Buening, Wells County
Stephanie Snider, IU-UITS	John Thomas, City of Lafayette
Mathew McCormack, IMAGIS	James Robb, IDEM
Doug Marvel, Spatial Marvels	Betty Kiechle, Lake County

1. Revised Draft Schedule of Events
    i. Refer to MS Project file

    b. 2 RFPs to go out
        i. data acquisition, project management, etc.
        ii. QA/QC; delivery acceptance testing
    c. Specifications
        i. June 7th submit draft specs to procurement
    d. time from procurement receipt of specs to draft RFP?
    e. RFP (35 days on street)
2. General requirements
    a. performance-based specifications
    b. multi-resolution by county
    c. USE OF EXISTING COUNTY DEM – in counties letter of intent, they should indicate if they have an existing DEM to support the high accuracy
        i. Preference to use existing DEM if provided by county (if provided)
3. Buy-up options:
    a. higher resolution (from counties and state, we need to require <u>letter of intent for buy-up by June 15, 2004</u> for consideration) includes re-sampling to the lower resolution designated by the original program (and resample to 1 meter statewide)
    b. counties that have existing DTM could be used

    c. counties that don't have DTM will need to either have new DTM created, or accept less accuracy (?) – NEEDS FURTHER DISCUSSION (digital acquisition could resolve the problem of counties wanting high resolution that don't have the DTM to support the accuracy requirements)
4. The program as envisioned will offer a set of buy-up options for local and/or state participation. Additionally, there should be optional products as part of delivery – although not required, we encourage the inclusion of all or any of the following to be presented as buy-up options and/or additional deliverables (not as buy-up):
    a. Additional color-IR band / multi-spectral (?) terms and conditions should include that this delivery cannot affect the delivery schedule to counties
    b. Digital surface model
    c. Projection / coordinate system variations from State Plane E/W (e.g., delivery in UTM)
    d. Vendor can provide options for other resolutions and/or accuracies (e.g., higher resolution with accuracy requirements of 1 meter)
    e. Accelerated delivery
    f. other
5. area of coverage
    a. State of Indiana plus 1000' overlap around state boundary, specific area definition for Lake, Porter, and LaPorte (to be defined by counties by due date of letter of intent) and to include both banks of the bordering rivers
6. special terms and conditions
    a. Women and Minority <u>owned</u> businesses (refer to State Procurement and State Minority and Women Business Office for guidance)
7. scope of work
8. project extent
9. performance criteria / product specifications
10. projection / coordinate system
    a. State plane Indiana E or W, NAD 83, US Survey Foot, as per Indiana Code: ____

11. accuracy requirements
12. Horizontal Accuracy Requirements
13. NAD 83; 1997 (HARN)
14. DEM to be used: vendor determined (county provided where available)
15. QA/QC qill be based on the Standard to be used: FGDC Geospatial Positional Accuracy Standards: National Standard for Spatial Data Accuracy (we will use GSD and RMSE Accuracy as requirements in the RFP).

Photo resolution (Ground Sample Distance (GSD, or pixel size))	Scale (for reference only)	Design Scale (for reference only)	**RMSE Accuracy (95% of points)**	Approximate file sizes per square mile
1 meter	1:12,000	1"=1,000'	**+/- 25' or 7 meters???**	7.4 mb/mi2 uncompressed
1 foot	1:2400	1"=200'	**+/- 5'**	79.8 mb/mi2

				uncompressed
6”	1:1200	1”=100’	**+/- 2.5’**	319 mb/mi2 uncompressed

16. Project Control and Orientation
    a. Project control
    b. Ground control requirements
    c. Procedures
    d. Processing
    e. Vertical Accuracy Requirements –
    f. The DTM developed for this project shall be of the quality required to support development of digital orthophotography
        i. Tell us what vertical accuracy is proposed
        ii. Is a surface model part of your deliverable?
    g. Digital Terrain Model (DTM)
17. imagery type
    a. natural 24 bit true color
    b. color balancing
    c. images should appear seamless with respect to color balance, saturation, hue
18. temporal requirements (leaf-off; Spring 2005; 30% sun angle or greater; no snow cover)
19. overlap (front and side)
20. file type / tile scheme / tile size by resolution / mosaics
    a. TIFF
        i. GeoTIFF or TIFF w/world file
    b. Compression
    c. Tile size
        i. 1 meter tiling system (quarter quad)
        ii. 1ft tiling system (2500 ft x 2500 ft (or by PLSS section / quarter section?)
        iii. 6” tiling system (2500 ft x 2500 ft)
    d. Mosaics
        i. County, rectangular encompassing entire county, maybe more than one
21. QA/QC Specifications
    a. Need to provide the QA/QC specifications (need to define authority of State and counties in this process)
    b. Authority to accept / reject product ultimately resides with whom? (QA/QC vendor or IGIC or State?)
22. Delivery and distribution (counties, QA/QC vendor, state)
    a. DVD to counties (1 set to state?)
    b. USB 2.0 external hard drive option to counties / state
    c. other
23. Metadata (to include methodologies used for compression)
    a. Require submittal of flight logs

    b. Anna supplied sample metadata record
24. Contingency Plans:
    a. Delivery time schedule
    b. Collect imagery
    c. Process
    d. Delivery
    e. staggered delivery schedule – goal to begin within a 6month window of data acquisition and end within 12 month window of data acquisition (12 months top end of goal, expectations should be set for later if the product is rejected due to specs and acts of nature)
    f. Back-up plan for non-acquisition coverage
    g. Recourse for rejected product
25. Need to manage expectations
    a. Orthos aren't the entire GIS system
    b. Minimum computer requirements for viewing / using orthos:
        i. Hard drive to accommodate file sizes (see estimates above)
        ii. Free viewers available (check file types for compatibility with existing systems)
        iii. DVD drive
        iv. High speed USB 2.0 if using external USB fire wire hard drives
    c. IMPORTANT – Incorporate message into educational seminars re: delivery schedule, i.e. significant lag time for delivery
    d. Educational issue: resolution and accuracy – what do they mean and what's the difference?